REMARKS

OVERVIEW

Claims 1-17 are currently pending in the present application. Claims 1, 9, 11-12, 14 and 17 have been amended. The present response is an earnest effort to place all claims in the proper form for immediate allowance. Reconsideration and passage to issuance is therefore respectfully requested.

ISSUES UNDER 35 U.S.C. § 103

Claims 1-5, 7-10, 12-13 and 15-17 have been rejected as being unpatentable over U.S. Patent No. 6,901,300 to Blevins in view of U.S. Patent No. 4,823,299 to Chang. Claims 6, 11 and 14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Blevins in view of Chang and in further of U.S. Patent No. 4,349,869 to Prett. These rejections are respectfully traversed.

The Examiner has pointed out in the Final Office Action that the term "response curve" could meet the elements of a "variable signal". The Applicant respectfully traverses this definition of "variable signal", but has amended the claims to advance prosecution of the present application. Specifically, claims 1, 9, 11-12, 14 and 17 have been amended to clarify that the filtered data is arranged in matrices with one column for each "actual variable signal".

The term "variable signals" as used in the present application refers to a process signal that can change during a process. It is the specific measurement of a changing condition, not the approximation of a process variable, that is being used to determine the lag. The inclusion of the term "actual" in reference to the variable signal is to denote that the signal has a specific value and is not simply an approximation or average of a signal as determined over time. The present invention finds the functional relationship between the physical variables present in a continuous process and the lag present in signals of these variables.

Blevins on the other hand does not arrange "actual variable signals". Instead, as noted in the previous amendment, Blevins arranges approximated data. Specifically, Blevins teaches of arranging coefficients that represent input/output curves (response curves). As such, Blevins teaches the finding of the execution rate as a function of one or more process variables that then effect process delay. Blevins does not look at the specific values of the variable signals to determine lag.

Data screening is synonymous with outlier filtering, but not with determining the goodness of fit of the lag function. The determination of goodness of fit of any function involves measuring any one of the known goodness of fit characteristics, such as the mean squared error, the Kolmogorov Smirnov statistic, the Pearson's correlation coefficient, etc.... To determine the goodness of fit, a new set of data is required. Blevin does not disclose this limitation.

This difference between the current application and Blevins, the use of actual variable signals versus an approximation, clearly distinguished the present application from Blevins. As neither Chang nor Prett disclose the use of actual variable signals to determine a lag, the Applicant asks that the Examiner withdraw the rejections of each of claims. The prior art references do not disclose each and every limitation, inherently or expressly, as being claimed in the independent claims.

Regarding the shifting of the matrices issue the following argument is offered. Chang discloses triangulation and annulling of four-by-four matrices. The word "shift" that is present in the disclosure relates to shifting new data into the array, row by row. This is completely different from the present invention. Present invention discloses the following: given a stream of values of k process variables arranged into k columns, a snapshot of n time scans is taken, resulting in an n-by-k matrix (containing n values of k process variables). Next, each column of that matrix is shifted by predetermined values (optimal values of each shift will turn out to be the desired values of the lag of the variable signal). As a result, a plurality of shifted matrices is produced

Claims 6, 11 and 14 further define limitations that are distinguishable from the prior art references. The Examiner relies upon Prett to teach that a "criterial function utilizes optimization

methods to rely on an optimal value for each variable signal". The Applicant respectfully traverses this analysis of Prett, as Prett does not disclose using an optimization method to provide optimal values. Instead, Prett teaches a specific optimization procedure wherein an optimum number of moves in the ith manipulated variable is found. The purpose of Prett is to determine the optimal value to provide feed forward/feed back control. This is different than the optimal value being found in the present application. In the present application, the value of the lag or delay in a process variable signal is being optimized. Each limitation in the claims 6, 11 and 14 are not disclosed by the prior art. The Applicant respectfully requests that claims 6, 11 and 14 be allowed.

CONCLUSION

It is respectfully submitted that all rejections have been overcome and that all claims are in proper form for immediate allowance. Reconsideration is respectfully requested. If prosecution of the present application can be facilitated by a telephone interview, Applicant invites the Examiner to telephone the Applicant's attorney at the below-identified number.

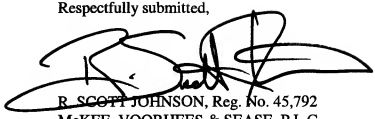
This amendment accompanies the filing of a Request for Continued Examination (RCE). Please charge Deposit Account No. 26-0084 the amount of $395.00 for the RCE per the attached transmittal.

Please also consider this a Request for One-Month Extension of Time from March 18, 2007 to April 18, 2007 and charge Deposit Account No. 26-0084 the amount of $60.00 for this extension.

No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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